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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,183	04/12/2004	Zoran Minevski	LYNN/0172	5898
24945	7590	05/14/2007		
STREETS & STEELE 13831 NORTHWEST FREEWAY SUITE 355 HOUSTON, TX 77040			EXAMINER LEADER, WILLIAM T	
			ART UNIT	PAPER NUMBER
			1742	
			MAIL DATE	DELIVERY MODE
			05/14/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/824,183

Applicant(s)

MINEVSKI ET AL.

Examiner

William T. Leader

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-99 is/are pending in the application.
- 4a) Of the above claim(s) 13,54,71-93,98 and 99 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12,14-43,50-53,55-70 and 94-97 is/are rejected.
- 7) ☒ Claim(s) 44-49 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Receipt of the papers filed on February 26, 2007, is acknowledged. Claims 1-99 are pending. Claims 13, 54, 71-93 and 98-99 remain withdrawn from consideration.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 103***

3. Claims 1-6, 9-12, 14, 29-32, 37, 53 and 94-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Sordelet et al (6,242,108) or Darolia et al (6,749,951) in view of Thoma et al (4,895,625) and Foster et al (4,789,441) for the reasons of record and in view of the following comments.
4. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Sordelet et al (6,242,108) or Darolia et al (6,749,951) in view of Thoma et al (4,895,625) and Foster et al (4,789,441) as applied to claims 1-6, 9-12, 14, 29-32, 37, 53 and 94-97 above, and further in view of Luch for the reasons of record and in view of the following comments.
5. Claims 7, 8, 18-27, 33-36, 38-40, 50, 51, 55-57 and 68-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Sordelet et al (6,242,108) or Darolia et al (6,749,951) in view of Thoma et al (4,895,625) and Foster et al (4,789,441) as

Art Unit: 1742

applied to claims 1-6, 9-12, 14, 29-32, 37, 53 and 94-97 above, and further in view of the Lowenheim text, *Electroplating* for the reasons of record and in view of the following comments.

6. Claims 28, 41, 52, 58 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Sordelet et al (6,242,108) or Darolia et al (6,749,951) in view of Thoma et al (4,895,625) and Foster et al (4,789,441) as applied to claims 1-6, 9-12, 14, 29-32, 37, 53 and 94-97 above, and further in view of Foster ('5833,829) for the reasons of record and in view of the following comments.

7. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Sordelet et al (6,242,108) or Darolia et al (6,749,951) in view of Thoma et al (4,895,625) and Foster et al (4,789,441) as applied to claims 1-6, 9-12, 14, 29-32, 37, 53 and 94-97 above, and further in view of Oguto et al (5792,333) ) for the reasons of record and in view of the following comments.

8. Claims 59-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Sordelet et al (6,242,108) or Darolia et al (6,749,951) in view of Thoma et al (4,895,625) and Foster et al (4,789,441) as applied to claims 1-6, 9-12, 14, 29-32, 37, 53 and 94-

Art Unit: 1742

97 above, and further in view of Biner et al (5,851,317) ) for the reasons of record and in view of the following comments.

***Allowable Subject Matter***

9. As indicated in the previous office action, claims 44-49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

10. Applicant's Remarks have been carefully considered but are not deemed to be persuasive. At pages 15-16, applicant summarizes the Sordelet, Darolia et al, Thoma et al and Foster et al patents. At the bottom of page 16, applicant observes that neither Thoma nor Foster disclose or teach the use of quasicrystals. The Examiner concurs. Thoma and Foster were cited to show that processes in which particles of a metal alloy and at least one elemental metal were electrodeposited onto a working electrode disposed in an electroplating which contained a solvent, ions of the elemental metal and the metal alloy particles suspended in the solvent are known.

11. At page 18 of the Remarks, applicant argues that the prior art makes no suggestion to combine Sordelet et al, Darolia et al, Thoma et al and Foster et al, and that the cited references do not seem to make out anything more than an "invitation to explore." These arguments are not convincing. The admitted prior art shows that it is known to form coatings comprising

quasicrystals by thermal spraying techniques. The Sordelet et al patent discloses that it is known to form coatings that include a quasicrystalline brittle phase and an intermetallic ductile phase by plasma spraying. The Darolia et al patent reveals that it is known to form a coating which is a mixture of quasicrystalline metallic phase and a non-quasicrystalline ductile phase by a physical vapor deposition technique such as plasma spraying.

12. The Thoma et al patent recognizes that protective coatings have been applied by thermal spraying and physical vapor deposition techniques. As indicated in the preceding paragraph, these are the techniques utilized by the admitted prior art, Sordelet et al and Darolia et al to form coatings including quasicrystals. Thoma et al teach that these methods are disadvantageous because of their high cost (column 1, lines 38-48). To overcome the disadvantages of thermal spraying and physical vapor deposition, Thoma et al disclose the use of an electrodeposition process in which particles of a metal alloy and at least one elemental metal were electrodeposited onto a working electrode. Foster et al similarly disclose that protective coatings have been produced using a plasma spraying technique but that this technique is expensive (column 1, lines 37). Like Thoma et al, Foster et al teach the use of a composite electrodeposition process in place of the prior art spraying technique.

13. Contrary to applicant's argument, there is clear motivation to combine the references because both Thoma et al and Foster et al teach replacing a physical vapor deposition technique such as plasma spraying which is expensive with a composite electrodeposition process. Thus, one of ordinary skill in the art would have been led to replace the physical vapor deposition techniques of the admitted prior art, Sordelet and Darolia et al with an electrodeposition process

Art Unit: 1742

in which in which particles of a metal alloy and at least one elemental metal were electrodeposited onto a working electrode. Based on the teaching of the references, this suggestion is clearly more than an invitation to explore. Inasmuch as both Thoma et al and Foster et al include working examples of the composite electrodeposition technique which produce protective coatings with desirable properties, the expectation of success is high.

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William T. Leader whose telephone number is 571-272-1245. The examiner can normally be reached on Mondays-Thursdays and alternate Fridays, 7:30-4:00.

Art Unit: 1742

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

W

William Leader  
May 11, 2007

ROY KING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700